MACK TRUCKS, INC.
WORLD HEADQUARTERS
2100 MACK BOULEVARD
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ALLENTOWN, PA 18105-5000
TELEPHONE: 610.709.3011

99V-014 (01)

January 22, 1999

Mr. Mike Brownlee, Associate Administrator
Office of Defects Investigation Enforcement NEF-111
National Highway Traffic Safety Administration
400 Seventh Street, S.W., Room 5319
Washington, DC 20590

SUBJECT: Vehicle Recall Campaign - SC0257
Improperly Machined Inner Wheel Bearing Cone for the Steering Axle

Dear Mr. Brownlee:

In accordance with the requirements of the National Traffic and Motor Vehicle Safety Act of 1966 and 49 CFR Part 573, Mack Trucks, Inc. will voluntarily conduct a safety defect notification and remedy campaign to correct defective inner wheel bearing cones for the steering axle. This report is presented to comply with sub-paragraphs of Section 573.5(c).

1. Manufacturer Corporate Name:

Mack Trucks, Inc.
2100 Mack Boulevard
Allentown, Pennsylvania 18105-5000

2. Identification of Involved Vehicles:

The vehicles affected are Mack class 8 CL, RD, RB, DM, MR, and LE models manufactured from March 1, 1998 through October 6, 1998 in our Winnsboro, SC and Macungie, PA assembly facilities. The affected chassis are equipped with Mack 16,000 lb., 18,000 lb., and 20,000 lb. heavy duty steering axles.

NTN/Bower identified the incorrectly ground/machined inner wheel bearing cones as first being made on February 23, 1998. Taking into account the time for shipment to arrive at the Dana assembly facilities along with on-hand inventory, we arrived at a March 1, 1998 begin date. The ending date of October 6, 1998, was established by purging defective inventory from the Dana assembly facilities and supplying the production lines with known good inventory.

3. Total Number of Vehicles Potentially Involved:
8,025 chassis built from March 1, 1998 through October 6, 1998.
(7,065 in USA, 550 in Canada, and 410 exported)

4. Percentage of Vehicles Estimated to be Affected:

98%

5. Description of Defect:

The defective part is the inner wheel bearing cone for the steering axle wheel hub assembly. NTN/Bower incorrectly ground/machined the radius of the bearing cone resulting in an improper fit onto the Mack steering axle spindle assembly. The Mack part number of the inner wheel bearing cone is 62AX469 (industry standard part number is 6461A). Consequences of the defect are that the bearing does not properly seat against the seal flange of the steering axle spindle. Improper fit of the bearing to the spindle increases the stress levels to the steering axle spindle which may cause spindle failure. There is also the potential for the bearing to be cocked (not running square to the bearing cup). Additionally, the bearing may move once the vehicle is put into service resulting in increased bearing end play.

If the spindle fails there could be, without warning, a loss of driver control and possibly a vehicle crash. A bearing that is operating with excessive end play and/or not running square to the bearing cup can fail prematurely. This may be noticeable to the driver as a wobble or shimmy in the steering axle, along with physical signs of the wheel seal leaking oil.

There have been no reported cases of vehicle crash, property damage, or personal injury resulting from this defect.

NTN/Bower is the manufacturer of the subject inner wheel bearing cones for the steering axle.

NTN Bearing Corporation of America
1600 East Bishop Court
Mt. Prospect, IL 60056-7604
Contact: Mr. Peter Eich, Director of Engineering

Dana Corporation is the subassembler of the Mack steering axle.

Spicer Heavy Systems Assembly Division
Dana Corporation
1235 Commerce Drive
Lugoff, SC 29078
Contact: Ms. Leigh M. Rose, Quality Manager

Spicer Heavy Systems Assembly Division
Dana Corporation
2919 Old Tree Road
Lancaster, PA 17603
Contact: Mr. Fred Hammond, Quality Manager

6. Chronology of Principal Events:

September 17, 1998

One of our service facilities reported difficulty in removing a steering axle hub and drum assembly from an RD688S-38008 (VIN 1M2P267C5WM038008). Upon removal of the hubs a technician identified that the inner wheel bearing cone on both left and right sides of the steering axle, did not properly fit on to the spindle assembly. Since the truck went into the shop because of a brake squeal complaint, there was no

damage or injuries. The bearings were recalled for inspection and we identified an incorrectly ground/machined radius on the inner wheel bearing cones. This evaluation was done at our Engineering Development & Test Center. Based on our findings, the bearings were then forwarded to NTN/Bower for their evaluation.

October 1, 1998

NTN/Bower and Mack agreed to remove all inventory of 62AX469 from the Parts Division and from the production facilities. All inventory of the parts were returned to NTN/Bower.

October 6, 1998

Parts with correct dimensions went into production.

October 15, 1998

NTN/Bower and Mack met to discuss the suspect bearing population size. NTN/Bower identified the suspect bearings to be from the following manufacturing date codes CN7 (Feb 1998), DN7 (March 1998), EN7 (April 1998), FN7 (May 1998), HN7 (June 1998), JN7 (July 1998).

October 23, 1998

Mack Service Engineering Department went out and removed the wheel hub/drum assemblies from a chassis which was built in the time frame with the incorrectly machined inner wheel bearing cones to check the condition of the spindle. The spindle assemblies were removed and returned to our test lab for evaluation. The lab evaluation showed there was a reduction in the compressive residual stresses on the surface of the spindle. However, the reduction in the compressive residual stresses on the spindles inspected was not found to cause any adverse effect to the spindle.

January 1999

Engineering performed an FEA (Finite Element Analysis) on a Mack spindle, modeling both good and incorrect made bearings. The FEA showed an increase in the operating stress level to the steering axle spindle with incorrectly made bearings installed.

January 19, 1999

Mack's Product Regulation Compliance Committee approved this campaign

7. Not Applicable

8. Remedy Program:

All known owners of the subject vehicles will be notified by first class mail of Mack's retrofit program involving suspect vehicles. We will remove the left and right hub/drum assemblies from the steering axles and replace the inner wheel bearing cones and cups at no charge to the owners. Changing the bearings corrects the increase of operating stress in the spindle.

Old inventory of the subject part was pulled from the production facilities and from our parts division. On October 6, 1998 correctly machined parts were installed at the production level. Production remedy was to start installing bearings made to the correct dimensions. Recall

remedy will be to replace bearings not made to correct dimensions with bearings that are made to the correct dimensions.

We will provide a schedule for the implementation of this recall as soon as parts are available in our distribution centers.

9. Notices, Bulletins and Communications:

Copies of the owner and dealer notifications and dealer repair instructions will be forwarded when available.

Sincerely yours,

MACK TRUCKS, INC.

D.L. Murphy
Campaign Administrator